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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/658,882

09/09/2003

Kuo-Tung Chang

AMD-H0642

3204

7590

06/14/2005

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EXAMINER

LEE, EUGENE

ART UNIT

PAPER NUMBER

2815

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/658,882

Applicant(s)

CHANG ET AL.

Examiner

Eugene Lee

Art Unit

2815

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 March 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, and 3 thru 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Mehrad et al. 6,765,257 B1. Mehrad discloses (see, for example, FIG. 1) a memory (integrated circuit device) comprising an array of memory elements (cells), said memory elements comprising a source, a drain and a gate; horizontal source line (common source line) 17, and source contact 32.

Regarding claim 3, see, for example, FIG. 1, wherein Mehrad discloses the horizontal source line 17 having a substantially uniform width.

Regarding claim 4, see, for example, FIG. 1, wherein Mehrad discloses a drain contact 34 in the same row as source contact 32.

Regarding claim 5, see, for example, FIG. 2, wherein Mehrad discloses the source contact 32 coupled to the horizontal source line 17 under a gate (gate structure) 13.

Regarding claim 6, see, for example, column 1, lines 12-13, wherein Mehrad discloses a FLASH memory array which is non-volatile memory.

Regarding claim 7, see, for example, FIG. 1 wherein Mehrad discloses a floating gate 13.

3. Claims 8, and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Karp et al. 6,266,269 B1. Karp discloses (see, for example, FIG. 2C) a programmed storage transistor (integrated circuit device) 205 comprising diffusions (lateral diffusions of source and drain implantation regions) 206 that overlap.

Regarding claim 14, see the abstract wherein Karp discloses a non-volatile memory element.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mehrad et al. '257 B1 as applied to claims 1, 3-7 above, and further in view of Hazani 5,047,814. Mehrad does not disclose substantially straight word lines. However, Hazani discloses (see, for example, FIG. \_13) a memory array comprising word lines WL. Word lines are used to access particular memory cells in a memory array. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have substantially straight word lines in order to select (activate) a single bit or multiple bits in a particular row of a memory array so that a data read and/or write operation may be performed.

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6. Claims 9 thru 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karp et al. '269 B1 as applied to claims 8, and 14 above, and further in view of Mehrad et al. 6,765,257 B1. Karp does not disclose one of said implantation regions being coupled to a first source contact. However, Mehrad discloses (see, for example, FIG. 2) a memory comprising a source diffusion (one of said implantation regions) and a source contact (first source contact) 32. It would have been obvious to one of ordinary skill in the art at the time of invention to have one of said implantation regions being coupled to a first source contact in order to have a medium to apply a voltage to the diffusions for the operation of the transistor.

Regarding claims 10 and 13, Karp does not disclose one of said implantation region being coupled to a common source line. However, Mehrad discloses (see, for example, FIG. 2) a horizontal source line 17, which couples source diffusions. The horizontal source line makes it possible to make one source region that is shared between multiple cells. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to have one of said implantation region being coupled to a common source line in order to form a one source region that can be shared between multiple cells in a memory array.

Regarding claim 11, see, for example, FIG. 2 wherein Mehrad discloses multiple gates (gate and second gate) 13.

Regarding claim 12, see, for example, FIG. 2 wherein Mehrad discloses multiple source contacts (first source contact, and second source contact) 32.

*Response to Arguments*

7. Applicant's arguments filed 3/25/05 have been fully considered but they are not persuasive.

Regarding the applicant's argument on page 2 of the response filed 3/25/05 that Mehrad does not anticipate or render obvious, "a source contact disposed outside of said common source line and coupled with said source", this argument is not persuasive. In FIG. 1, Mehrad clearly discloses the source contact 32 outside the horizontal source line (common source line) 17. Even though the applicant points out vertical source line 17a which is not outside the source contact 32, this does not deter from the fact that the source contact 32 is outside the horizontal source line 17.

Regarding the applicant's argument on page 4 that Karp does not anticipate or render obvious an integrated circuit device, "wherein a first region under a gate comprises overlapping lateral diffusions of source and drain implantation regions", this argument is not persuasive. In Figure 2C, Karp clearly discloses overlapping source and drain regions 206 underneath a gate 207. In column 6, lines 56-63 (which is cited by the applicant on page 4, last line of the response), Karp does not state non-overlapping lateral diffusions but in fact mention the merging of the source and drain. This merging is clearly shown as overlapping in Figure 2C of Karp.

*Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

#### **INFORMATION ON HOW TO CONTACT THE USPTO**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eugene Lee whose telephone number is 571-272-1733. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Thomas can be reached on 571-272-1664. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Eugene Lee  
June 6, 2005

  
**GEORGE ECKERT**  
**PRIMARY EXAMINER**